



GLOBAL CLIMATE CHANGE

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USAID/Mexico supports an environmental program that seeks to protect biodiversity, promote energy efficiency, reduce greenhouse gas (GHG) emissions, and decrease Mexico's vulnerability to climate change. The Mission's climate change activities have focused in particular on forest conservation, renewable energy, and clean production systems that mitigate GHG emissions.

Background. Mexico is the world's tenth largest economy, and is a pivotal contributor to prosperity and stability in the Western Hemisphere. Mexico's adoption of the North American Free Trade Agreement (NAFTA) in 1994 links together 426 million people and produces more than \$12 trillion worth of goods and services, setting a standard for much of Latin America and the Caribbean to emulate. However, not all of Mexico reaps the benefits that trade, international visibility and close partnerships with the U.S. may offer. Poverty levels remain high, particularly in rural areas. In addition, economic growth and environmental degradation present significant challenges to the country's rich biodiversity.

The current U.S.-Mexico development agenda includes: 1) promoting environmental protection, alternative energy and ecotourism; 2) improving public administration, transparency and accountability; 3) broadening microfinance and remittance utilization; 4) preventing infectious diseases, and 5) furthering higher education and competitiveness. USAID's environmental program is focused on improving the management of natural resources in key watershed areas of Mexico. USAID is working with a range of U.S. and Mexican partner organizations to introduce new and improved watershed management approaches to conserve Mexico's considerable biodiversity, particularly forestry; and to generate new economic opportunities for communities in the target watershed areas, through promotion of eco-tourism, cacao, specialty coffee, community forestry, and non-timber forestry products. To promote environmental business and energy conservation businesses, USAID is working with Mexico on economically viable renewable systems and energy-efficient, non-polluting clean production technologies.

Sector-Specific Climate Change Activities.

Reduced Net Greenhouse Gas Emissions from the Land Use Sector. USAID/Mexico's efforts to reduce greenhouse gas emissions from the land use sector address improved watershed management and biodiversity conservation in four watersheds: the middle Usumacinta (Chiapas), the Pacific Coast (Chiapas), the Chimalapas (Oaxaca) and the Sierra Tarahumara (Chihuahua).

Over the past several years, USAID/Mexico supported the consolidation of 11 protected areas that now have the basic management capacity, infrastructure and financial planning. In southern Mexico, small grants have helped the communities and local non-governmental organizations (NGOs) of the Selva Maya to improve local coordination of alternative productive activities that will help displace pressure on forests.

USAID/Mexico's support of The Nature Conservancy's (TNC) Chiapas Coast Project has helped introduce better practices of grazing and agricultural methods in critical areas in the highly degraded watersheds that lie between the bioreserves of El Triunfo and El Encrucijada, along the Pacific coast of Chiapas. The project has the dual impact of decreasing emissions from the expansion of poor agricultural management and helping to build more resilience in the face of natural disasters, which may increase as the climate warms.

The USAID Rural Prosperity Program (IPRC) is designed to bring economic and technical assistance to the sustainable land use management practices being supported by USAID/Mexico. Key areas of focus include sustainable management and identification of market links for shade coffee and cacao, improved grazing practices, and assisting communities to improve timber operations. Activities being promoted serve to slow and reverse fragmentation and conversion of forests and other natural habitats.

The Chimalapas region, the largest unfragmented area of tropical forest remaining in Mexico, is almost entirely owned by two communities that have long been interested in conserving their natural resources. An attempt to develop a biosphere reserve in this area in the 1990s was halted by these communities. World Wildlife Fund (WWF) has brought together the institutions that are working in the region to develop a common vision and plan for conservation and development in this area before land use pressures fragment and convert this forest to activities that reduce the carbon content of this area and make it more generally vulnerable to fire.

The USAID/Mexico environment program supports the regional Certified Sustainable Products Alliance project to strengthen the competitiveness and sustainability of certified agriculture and timber operations and improve their access to international markets. The project helps improve management of forests and forest operations, and improve markets for products derived from certified forests. With improvements in overall forest management, this region is less vulnerable to fire and disease and there is less motivation to convert forestland to other uses.

In addition, USAID/Mexico supports the Sierra Tarahumara Forest Conservation program implemented by WWF to address serious watershed degradation and marginalization of its residents. This two-track approach of the conservation program is working to strengthen the inter-institutional

process that has developed a common land use plan that includes activities to restore poorly degraded areas and to improve forest management activities. The project is working to slow the carbon emissions from the poor management of forests and soils. This activity will eventually help restore carbon to the landscape.

Reduced Net Greenhouse Gas Emissions from the Energy Sector, Industry and Urban Areas. The focus of USAID/Mexico's energy program is to mitigate greenhouse gas emissions and to improve implementation of Mexico's environmental policies through the implementation of cleaner production and renewable energy technologies. USAID/Mexico provides technical assistance to Mexican counterparts to develop national scale programs that provide real carbon dioxide (CO₂) savings while strengthening the technical and administrative aspects of these agencies. With USAID/Mexico support, PEMEX's¹ new Sustainable Development Program has realized approximately 3.1 million tons of CO₂ emissions avoided by improving its energy water efficiency and applying cleaner production technology projects (energy efficiency, recycling, water reuse, and waste minimization) in four PEMEX subsidiaries. Under USAID/Mexico's Renewable Energy Project, in Chihuahua and Chiapas, an additional 13,787 metric tons of CO₂ emissions has been avoided through the installation of renewable energy technologies that include solar and wind systems for productive applications in rural areas, lighting for poor indigenous communities and distance learning photovoltaic-powered systems.

USAID has also been helping SENER, the Mexican Ministry of Energy, with plans and documentation to obtain \$365,000 from the Global Village Energy Partnership (GVEP²) through the Global Environment Facility (GEF) and to implement the Government of Mexico (GOM) and SENER rural electrification strategy, which is expected to obtain \$15 million in grants and \$15 million in loan funds from GEF. Finally, under the same program, SENER is working to obtain complementary funding with a total amount of \$70 million from other Mexican federal agencies and states for the Mexican Rural Electrification Program (PRONER).

¹PEMEX – *Petroleos Mexicanos* – Mexico's state-owned petroleum extraction and refining company.

²GVEP is a 10-year initiative that seeks to increase access to modern energy services in developing countries in a manner that enhances economic and social development and reduces poverty. GVEP partners include developing countries, industrialized governments, multilateral organizations, private firms, and NGOs.

The Clean Production and Renewable Energy (CP/RE) component of USAID/Mexico's Environment Program is based on the mission's experience with development and current trends in Mexico's environment and energy sectors. Since its initiation in late 2004, activities such as an environmental assessment on industries (PEMEX, sugar mills, etc.) as well as administrative facilities of several municipalities (Mexico City Government - GDF) have saved over 10.2 MW-H and 10.2 BTUs in thermal combustion. Under the Methane to Markets (M2M)³ Partnership, USAID/Mexico is not only supporting PEMEX to reduce pipeline losses and emissions in their exploration and processing facilities, but is also providing assistance to SEMARNAT⁴, the Inter-American Development Bank and the private sector to construct improved landfills, particularly along the border region, to capture and burn methane to generate electricity. Methane gas from landfills provides a double benefit of significantly reducing greenhouse gas emissions, while providing a source of renewable energy and providing assistance to SEMARNAT to assess the use of biomass waste from concentrated feedlot, dairy or agricultural operations to generate electricity and/or thermal energy. Additionally, USAID/Mexico is providing assistance to the GOM to develop legislation and regulations for licensing and ownership for methane recovery from coal mines; facilitate workshops with various stakeholders to discuss activities to leverage the M2M Partnership funding to evaluate and invest in landfill methane recovery projects in the border region and in other states; and identify and conduct feasibility studies for highly viable landfill methane recovery projects.

Reduced Vulnerability to the Impacts of Climate Change. In Mexico, fire is a common tool to convert forests to other land uses that usually sequester less carbon. The predictions of climate change indicate that forests will become increasingly vulnerable to fire as they adapt to the new physiological circumstances foreseen. Managing fire is critical to ensuring that forest lands and their associated communities—both natural and human—adapt to climate variation.

³ The Methane to Markets Partnership (M2M) is an international initiative that advances cost-effective, western methane recovery and use as a clean energy source. The M2M Partnership is a collaboration between 18 developed countries and developing countries.

⁴ SEMARNAT – Mexican Ministry of Environment and Natural Resources

USAID's partners in climate change activities in Mexico include*:

- Alliance to Save Energy (ASE)
- U.S. Department of Energy (DOE)
- Shared-Risk Trust Fund for Renewable Energy (FIRCO)
- Fondo Mexicano para la Conservación de la Naturaleza (FMCN)
- PA Consulting
- Petróleo Mexicano (PEMEX)
- Rainforest Alliance (RA)
- Sandia National Laboratories
- Mexican Ministry of Environment and Natural Resources (SEMARNAT)
- Mexican Ministry of Energy (SENER)

* Because partners change as new activities arise, this list of partners is not comprehensive.

For more information on Mexico, visit USAID's Web site at:

<http://www.usaid.gov/>

In conjunction with the Fire Management Program⁵, USAID/Mexico has supported the development of adaptation plans to address vulnerabilities identified through risk assessments. The Fire Program has worked directly with the Mexican Forest Commission (CONAFOR), to introduce new technologies and increase the professional capacity of communities, NGOs, states and federal fire managers through the development of four new courses in the last three years that are supporting the creation of a training curriculum for fire prevention and control in Mexico. The program also assisted CONAFOR to launch a new system that is designed to track the training and experience qualifications of every fire fighter in its system, which is helping to target training needs across Mexico and allows fire bosses to better determine how to best and most safely assign their fire brigadists in controlling forest fires when they occur.

Capacity Building Including Activities in Support of the U.N. Framework Convention on Climate Change. The project Fondo Mexicana para la Conservación de la Naturaleza (NEEM) is a working group comprised of USAID's principle NGO partners and two national level Mexican NGOs, coordinated through the Mexican Conservation Fund (FMCN). The group serves to identify and find ways to address key environmental issues at the national level that are limiting success of local work. The working group has identified capacity building, particularly in watershed management and fire management, development of ecosystem services, and monitoring as key issues that need to be addressed. Currently, the group is funding several studies to recommend specific actions for resolving the limitations identified.

⁵ The USAID Fire Management Program is implemented through an Interagency Agreement with the U.S. Forest Service (USFS). This Program supports the partnership between the Mexican (CONAFOR) and US (USFS) counterparts to strengthen the capacity in Mexico to prevent and control forest fires.